DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-022107
Date Inspected: 22-Mar-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name:	See below	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☑ Yes ☐ No ☐ N/A	**Rod Oven in Use:**	☑ Yes ☐ No ☐ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes ☐ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☑ Yes ☐ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as 5W-pp29.5-W5-SW and the following observations were made:

Tower temporary welding

East tower leg to shear plate identified as B1E complete joint penetration electro slag weld joint. The QA Inspector randomly observed the ABF Welding Superintendent Dan Ieraci and the ABF welder Kenneth Chapel installing and tack welding the weld joint restraint plates or strong backs to the weld joint identified above. The QA Inspector noted the temporary attachment was identified as a P4 type strong back. The QA Inspector noted the ends of the plate have a single bevel to be welded utilizing a partial joint penetration groove weld at both ends of the attachment form the 2G welding position. The QA Inspector noted for clarification, one end of the plate gets welded to the B1E shear plate and the other end of the plate is welded to the outer skin of the south tower shaft. The QA Inspector noted no weld other than shielded metal arc welding (SMAW) tack welding was performed on this date. The QA Inspector observed Mr. Ieraci preheat the isolated area adjacent to the electro slag vertical weld joint to 225ºF utilizing a rose bud torch. After the minimum required preheat was achieved, Mr. Ieraci would hold the plate in place while the ABF welder Kenneth Chapel performed SMAW tack weld on the edge of the P4 type strong back and not in the PJP groove to be welded at a later time. The QA Inspector noted the ABF welder was utilizing 1/8" E7018 low hydrogen electrodes with 130 Amps. It was noted the minimum required preheat and SMAW parameters did appear to be in general compliance with the contract requirements. The QA Inspector noted weld joint identified as and 24 was welded on this date. The QA Inspector noted the top P4 Type plates were tack welded on this date. The QA Inspector noted the SE QC Inspector Patrick Swain was on sit to monitor the in

process tack welding and fit up. The QA Inspector noted the same process was repeated twice for the above identified weld joint and again for the weld joint identified as shear plate B2E to the east tower shaft outer skin plate. The QA Inspector noted no FCAW of the PJP welds were performed on this date. The QA Inspector noted only fit up and tack welding.

5W-pp29.5-W5-SW
The QA Inspector randomly observed the ABF welder James Zhen preparing the above deck access hole for fit up. The QA Inspector randomly observed the ABF welder and helper grinding bevels of the longitudinal stiffeners and transverse stiffeners under the deck access hole. The QA Inspector randomly observed the ABF welder utilizing a nibbler machine cutting the 45º bevel at the edge of the deck access hole insert. The QA Inspector noted the bevel and bevel angle appeared to meet the general requirements of the contract documents. The QA Inspector previously observed a gouge on the flame cut edge that appeared to be approximately 12mm deep. The QA Inspector noted the base metal was approved by the Caltrans QA Representative Robert Mertz. The QA Inspector randomly observed the ABF welder had ground and blended the gouged flame cut edge to 15mm deep and approximately 80mm long. It was noted a copper backing bar was placed under the ground out area to act as a weld dam to make the SMAW repair. The QA Inspector randomly observed the ABF welder utilizing 1/8” E7018 low hydrogen electrodes with 128 amps to make the repair. The QA Inspector noted the area would be preheat to approximately 200ºF and a weld pass was deposited. Then the ABF helper would grind the weld pass and repeat the process. After the repair was completed the areas was restored by welding, the nibbler machine was utilized to cut the 45º bevel into the plate edge of preparation.

The QA Inspector spent the remainder of the shift performing updates of on site tracking of production welding and non destructive testing. The Lead QA Inspector Rick Bettencourt and QA Inspectors on site, reviewed all tracking logs and updated all data with current information and production welding status. In addition the QA Inspector reviewed contract drawing and special provisions related to the 04-0120F4 contract.

Summary of Conversations:
The Caltrans Structures Representative Doug Wright informed the QA Inspector that no seal weld would be required at the south tower shaft splice plate at 83 meters. Mr. Wright informed the QA Inspector that the contract had a set of plans which showed a seal weld between the two plates. Mr. Wright went on to inform the QA Inspector the set of plans that Caltrans has does not call for the seal weld. Mr. Wright informed the QA Inspector

the Caltrans Structures Representative Mark Woods observed the area where the seal weld was in question. Mr. Woods informed Mr. Wright the weld is not necessary and ABF did not have to install it.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer